INL Intelligence
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A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Laboratory. Work at the lab advances the Department's strategic goals in the areas of energy, environment, defense and science.

Lab-developed Technology Licensed to Treasure Valley Firm

A project initially funded by the U.S. Department of Energy's Applied Technology Program has resulted in the development of an important new tool for law enforcement and military authorities. Following a year's design and prototyping efforts and extensive testing by federal and local law enforcement officers, INL engineers were able to introduce a special integrated shotgun. The weapon allows law enforcement personnel to breach a door with a powerful shotgun blast, and then have a high-powered rifle ready to deter and detain opponents in a single, fast-acting unit. The breaching shotgun has been licensed to proSWAT, Inc. of Meridian for manufacturing and marketing. A portion of the royalties from licensing the firearm will return to INL to support future research.

New Center for Space Nuclear Research Names Director

Dr. Steven Howe has been appointed the first director of the Center for Space Nuclear Research (CSNR). Located in Idaho Falls, the CSNR is operated by the Universities Space Research Association in collaboration with INL. The CSNR will be a focus for engaging university scientists in research and development of advanced space nuclear systems, including space power and propulsion systems and radioisotope power generators. The center will also establish and conduct a multidisciplinary education program that uses a mix of classroom and research activities. Howe comes to INL from the Applied Physics Division at Los Alamos National Laboratory. His undergraduate and graduate work was in nuclear engineering at Kansas State University. He has published over 50 reports in the open literature, and has appeared in numerous television programs about space and rocketry.

INL Gains Important Research Asset

A significant equipment transfer from the U.S. Navy and BWXT Corporation to INL is giving a substantial boost to the laboratory's energy research capabilities. The world's largest first-generation integrated fuel processor that converts high-sulfur NATO-76 diesel fuel into hydrogen-rich gas for use in a fuel cell system was formally turned over to INL in a ceremony late this month. The pioneering 500 kW Integrated Fuel Processor is a major step toward achieving innovative energy solutions – from clean electric power on Navy ships and luxury cruise liners to stand-alone power systems in areas such as rural Alaska. The equipment and associated research are valued at more than $14 million. Diesel-reforming technology converts high-sulfur diesel into a clean energy source, avoiding air emission concerns associated with burning it in conventional combustion systems. And the energy conversion rate is much higher than with standard gas turbines.

Reactor Maintenance Effort Completed

The latest regularly scheduled replacement of key internal components of the Advanced Test Reactor (ATR) has been completed, as has some associated maintenance work. The so-called core internal change-out and maintenance effort spanned an 8-month period. Facility management hailed the change-out as the safest ever completed. Following the work, the ATR resumed operations. Separately, the reactor recently went through an Office of Independent Oversight and Quality Assurance Inspection. The assessment team noted numerous positive attributes in the operations and maintenance activities conducted at the ATR.

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